

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims**

1. (Currently amended) A method for switching, the method comprising:  
receiving an indication of a failure of a primary storage subsystem at a switch, wherein the switch couples a host to the primary storage subsystem and a secondary storage subsystem; and  
subsequently, directing a command from the host received at the switch to the secondary storage subsystem for completion by changing a source volume and a target volume in the command to correspond to volumes in the secondary storage subsystem, wherein the source volume and the target volume are for I/O operations, and wherein the changing is performed by a switching application in the switch.
2. (Canceled)
3. (Original) The method of claim 1, further comprising:  
receiving a notification at the switch from a monitor application that traps an I/O alert corresponding to the failure, wherein the monitor application is coupled to a hardware unit coupled to the primary storage subsystem; and  
holding an I/O request that resulted in the failure in a busy state at the monitor application.
4. (Original) The method of claim 1, further comprising:  
receiving a notification at a monitor application that the primary storage subsystem is functioning properly, wherein the monitor application is coupled to a hardware unit coupled to the primary storage subsystem; and  
synchronizing data in the secondary storage subsystem to the primary storage subsystem; and  
directing a command from the host received at the switch to the primary storage subsystem for completion.

5. (Currently amended) A method for data replication, the method comprising:  
receiving an I/O command at a switch from a host;  
if the I/O command is a write I/O, then writing data via the switch to a primary storage subsystem and a secondary storage subsystem, wherein the switch couples the host to the primary storage subsystem and the secondary storage subsystem, and wherein the data written to the primary storage subsystem and the data written to the secondary storage subsystem are the same; and  
if the I/O command is a read I/O, then reading the data exclusively from the primary storage subsystem.

6. (Canceled)

7. (Currently amended) The method of claim 5, further comprising:  
determining if a switching application in the switch is in an asynchronous mode; and  
if the switching application is in an asynchronous mode, then:  
(i) writing the data to the primary storage subsystem;  
(ii) writing the data to a buffer in the switch; and  
(iii) copying, by the switching application in the switch, the data from the switch to the secondary storage subsystem.

8. (Original) The method of claim 5, further comprising:  
determining if a switching application in the switch is in a synchronous mode; and  
if the switching application is in a synchronous mode, then writing the data to the primary storage subsystem and the secondary storage subsystem substantially simultaneously.

9. (Original) The method of claim 5, wherein the primary storage subsystem and the secondary storage subsystem comprise a plurality of logical storage units, wherein the primary storage subsystem and the secondary storage subsystem include the same data.

10. (Original) The method of claim 5, wherein in the event of a failure of the primary storage subsystem, a switching application in the switch directs a subsequent I/O command from the host to the secondary storage subsystem.

11. (Currently amended) A system for switching, the system comprising:  
a primary storage subsystem;  
a secondary subsystem;  
a switch, wherein the switch couples a host to the primary storage subsystem and the secondary storage subsystem;  
means for receiving an indication of a failure of the primary storage subsystem at the switch; and  
means for directing a command from the host received at the switch to the secondary storage subsystem for completion, by changing a source volume and a target volume in the command to correspond to volumes in the secondary storage subsystem, wherein the source volume and the target volume are for I/O operations, and wherein the changing is performed by a switching application in the switch.

12. (Canceled)

13. (Original) The system of claim 11, further comprising:  
means for receiving a notification at the switch from a monitor application that traps an I/O alert corresponding to the failure, wherein the monitor application is coupled to a hardware unit coupled to the primary storage subsystem; and  
means for holding an I/O request that resulted in the failure in a busy state at the monitor application.

14. (Original) The system of claim 11, further comprising:  
a hardware unit coupled to the primary storage subsystem;  
a monitor application coupled to the hardware unit;  
means for receiving a notification at the monitor application that the primary storage subsystem is functioning properly; and

means for synchronizing data in the secondary storage subsystem to the primary storage subsystem; and

means for directing a command from the host received at the switch to the primary storage subsystem for completion.

15. (Currently amended) A system for data replication, the system comprising:  
a primary storage subsystem;  
a secondary subsystem;  
a switch, wherein the switch couples a host to the primary storage subsystem and the secondary storage subsystem;  
means for receiving an I/O command at the switch from the host;  
means for writing data via the switch to the primary storage subsystem and the secondary storage subsystem if the I/O command is a write I/O, wherein the data written to the primary storage subsystem and the data written to the secondary storage subsystem are the same; and  
means for reading the data exclusively from the primary storage subsystem if the I/O command is a read I/O.

16. (Canceled)

17. (Currently amended) The system of claim 15, further comprising:  
means for determining if a switching application in the switch is in an asynchronous mode, wherein if the switching application is in an asynchronous mode, then performing:  
(i) writing the data to the primary storage subsystem;  
(ii) writing the data to a buffer in the switch; and  
(iii) copying, by the switching application in the switch, the data from the switch to the secondary storage subsystem.

18. (Original) The system of claim 15, further comprising:  
means for determining if a switching application in the switch is in a synchronous mode, wherein if the switching application is in a synchronous mode, then writing the data to the primary storage subsystem and the secondary storage subsystem substantially simultaneously.

19. (Original) The system of claim 15, wherein the primary storage subsystem and the secondary storage subsystem comprise a plurality of logical storage units, wherein the primary storage subsystem and the secondary storage subsystem include the same data.

20. (Original) The system of claim 15, wherein in the event of a failure of the primary storage subsystem, a switching application in the switch directs a subsequent I/O command from the host to the secondary storage subsystem.

21. (Currently amended) ~~An article of manufacture~~ A computer readable storage medium including code for switching, wherein the ~~article of manufacture~~ code in response to being executed by a processor is capable of causing operations, the operations comprising:

receiving an indication of a failure of a primary storage subsystem at a switch, wherein the switch couples a host to the primary storage subsystem and a secondary storage subsystem; and

subsequently, directing a command from the host received at the switch to the secondary storage subsystem for completion by changing a source volume and a target volume in the command to correspond to volumes in the secondary storage subsystem, wherein the source volume and the target volume are for I/O operations, and wherein the changing is performed by a switching application in the switch.

22. (Canceled)

23. (Currently amended) The ~~article of manufacture~~ computer readable storage medium of claim 21, the operations further comprising:

receiving a notification at the switch from a monitor application that traps an I/O alert corresponding to the failure, wherein the monitor application is coupled to a hardware unit coupled to the primary storage subsystem; and

holding an I/O request that resulted in the failure in a busy state at the monitor application.

24. (Currently amended) The ~~article of manufacture~~ computer readable storage medium of claim 21, the operations further comprising:

receiving a notification at a monitor application that the primary storage subsystem is functioning properly, wherein the monitor application is coupled to a hardware unit coupled to the primary storage subsystem; and

synchronizing data in the secondary storage subsystem to the primary storage subsystem; and

directing a command from the host received at the switch to the primary storage subsystem for completion.

25. (Currently amended) ~~An article of manufacture~~ A computer readable storage medium including code for data replication, wherein the ~~article of manufacture~~ code in response to being executed by a processor is capable of causing operations, the operations comprising:

receiving an I/O command at a switch from a host;

if the I/O command is a write I/O, then writing data via the switch to a primary storage subsystem and a secondary storage subsystem, wherein the switch couples the host to the primary storage subsystem and the secondary storage subsystem, and wherein the data written to the primary storage subsystem and the data written to the secondary storage subsystem are the same; and

if the I/O command is a read I/O, then reading the data exclusively from the primary storage subsystem.

26. (Canceled)

27. (Currently amended) The ~~article of manufacture~~ computer readable storage medium of claim 25, the operations further comprising:

determining if a switching application in the switch is in an asynchronous mode; and

if the switching application is in an asynchronous mode, then:

(i) writing the data to the primary storage subsystem;

(ii) writing the data to a buffer in the switch; and

(iii) copying, by the switching application in the switch, the data from the switch to the secondary storage subsystem.

28. (Currently amended) The ~~article of manufacture~~ computer readable storage medium of claim 25, the operations further comprising:  
determining if a switching application in the switch is in a synchronous mode; and  
if the switching application is in a synchronous mode, then writing the data to the primary storage subsystem and the secondary storage subsystem substantially simultaneously.

29. (Currently amended) The ~~article of manufacture~~ computer readable storage medium of claim 25, wherein the primary storage subsystem and the secondary storage subsystem comprise a plurality of logical storage units, wherein the primary storage subsystem and the secondary storage subsystem include the same data.

30. (Currently amended) The ~~article of manufacture~~ computer readable storage medium of claim 25, wherein in the event of a failure of the primary storage subsystem, a switching application in the switch directs a subsequent I/O command from the host to the secondary storage subsystem.